

Elmira Business Institute
Student Syllabus: Statistics for Management BUS220

Prerequisites: None**Course Credits/ Clock Hours: 3/45****Course Delivery Mode: Residential****Course Description**

This course is designed to give students an introduction in the field of statistical analysis of business and economic data as it applies to management decisions. Topics will include data analysis, understanding central tendencies and their applications to business, understanding basic probability, sampling, confidence interval estimation, and regression analysis. (Lec/Lab/Ext/Total) (45/0/0/45).

Student Learning Outcomes

Upon completion of this course, students will be able to:

- Demonstrate how businesses use statistics using spreadsheet applications
- Describe the basics of central tendencies and their applications to business
- Explain the basics of distribution
- Define and analyze the process of sampling
- Explain the basics of simple and multiple regression analysis

Required Course Texts & Course Materials

Navidi, William, Monk, Barry. *Essential Statistics w/ Connect 2nd ed.* McGraw-Hill Print 2017. (ISBN: 9781260144826)

Supplemental educational learning materials may include and are not limited to

Urdu, Timothy C. *Statistics in Plain English*. New York: Routledge, 2010. Print. (ISBN: 9780415872911)

Rumsey, Deborah J. *Statistics for Dummies*. Somerset, NJ: Wiley, 2011. Print. (ISBN: 90780470911082)

Assessment

Essay assignments and research projects will be evaluated on a standard grading rubric. Written examinations will be graded according to content (multiple choice, fill-in-the blank, short answer, and/or essay).

The instructor will endeavor to return student work product by the next official class period whenever possible. Essay and/or research projects will be returned as soon as all class projects have been graded.

Student Homework Policy Statement

Elmira Business Institute (EBI) syllabi contain assignments in alignment with the federal government's definition of appropriate, assigned homework for each credit hour. For each one-credit hour of classroom or direct faculty instruction, two hours of out-of-class student work will be assigned. (For example: A three-credit course will include an average of six (6) hours of homework each week.). For classes with laboratory or clinical work, a three-credit, four-hour class will include an average of six (6) hours of homework each week. For externships, each

credit hour will include an average of three (3) hours of homework per week. Assignments are directly relevant to course objectives and learning outcomes and are included at the end of the syllabi. Each assignment will be graded and recorded by the instructor.

Calculation of a Semester Credit Hour

All coursework at Elmira Business Institute is measured in semester credit hours.

- One Semester Credit Hour is equivalent to fifteen (15) clock (contact) hours of Lecture.
- One Semester Credit Hour is equivalent to thirty (30) clock (contact) hours of Laboratory training.
- One Semester Credit Hour is equivalent to forty-five (45) clock (contact) hours of Externship.

Definition of a Contact Hour

One contact hour is defined as 50 minutes within a 60-minute period of instructional activities (lecture, lab, clinical, and externship). The student is required to devote appropriate time to preparation and study outside the classroom.

Evaluation

Assessment Type	% of Grade
Attendance/Professionalism	15%
Homework	15%
Quizzes (In-Class Tutorials)	15%
Project	15%
Examinations	40%
Total	100%

Grading Scheme

Numerical Average	Letter Grade	Quality Points
95-100	A	4.0
90-94	A-	3.7
86-89	B+	3.3
83-85	B	3.0
80-82	B-	2.7
76-79	C+	2.3
73-75	C	2.0
70-72	C-	1.7
68-69	D+	1.3
66-67	D	1.0
65	D-	0.7
0-64	F	0.0
Withdraw/Failing	W/F	0.0
Withdraw	W	----
Incomplete	I	----
Test Out	TO	----
Transfer of Credit	T	----

Course Policies

Behavioral Standards

Students are expected to abide by all public laws; to comply with the regulations and policies of the College; and to demonstrate a positive attitude, diligence, and courteous conduct toward instructors, staff, and fellow students. Respect for others in terms of language, demeanor, and attention to others while they are speaking is expected.

The College reserves the right to dismiss or suspend students for conduct which impedes, disrupts, or interferes with the orderly and continuous administration and operation of the College or any unit of the College. Attending EBI is not a right; it is a privilege.

As a part of its mission to prepare students for careers in the business and healthcare world, EBI requires students to dress in a manner that will create a positive self-image. Inappropriately dressed students may not be permitted to attend classes. Students in College externships are required to follow the participating organization's dress code.

No cell phone use or Internet access is allowed in the classroom unless permission is granted by the instructor and usage is course appropriate.

No eating or drinking in EBI's classroom laboratories (medical, business or technology) and Library.

Attendance Policy

Attendance is mandatory and will be used when calculating participation/attendance. Class will begin promptly. Students who are late or absent are responsible to obtain lecture notes, assignments, and announcements after class, so as not to interfere with class time, or the work of fellow students. One of the first questions a potential employer will ask the Career Services representative about is student attendance. Your attendance in the classroom directly represents your quality of potential work.

Students who do not attend classes after missing 14 consecutive calendar days or who fail to attend classes on a regular basis will be administratively dropped by the College. Since attendance is also used to verify enrollment for financial aid purposes, it is important that students attend classes on a regular basis to avoid loss of financial aid eligibility (student loans) and federal and state grants.

Make-Up Policy

When a student is absent, that student is responsible for making up missed class work. Make-up tests or quizzes may be offered at the instructor's discretion via ONE-STOP at the Library, and it is the student's responsibility to arrange a time at the librarian's convenience. One-Stop tests and quizzes must be taken within one week of the date of absence; failure to make up work, quizzes, or exams in a timely manner may result in a 0 grade. There is no charge for make-up work.

Mid-term or Final Examinations may only be made up with approval from the Campus Director/Dean and appropriate documentation.

Academic Integrity/Plagiarism Rules

Elmira Business Institute is committed to supporting its mission to provide an educational experience designed to develop professional competencies including developing habits of personal and professional integrity. The College expects all members of its community—students, faculty, and staff—to act honestly in all situations. Actions of Academic Dishonesty will not be tolerated. Academic Dishonesty “is any form of cheating and plagiarism which results in students giving or receiving unauthorized assistance in an academic assignment or receiving credit for work which is not their own.” All students are expected to agree to a pledge of honesty concerning their academic work, and faculty is expected to maintain the standards of that code. If you think it may be cheating, it probably is.

Please keep in mind that plagiarism includes:

- Copying another person’s work and claiming credit for it
- Failing to give credit—both a works cited and in-text citations are required for information you retrieved from another source whether or not it is a direct quotation
- Incorrectly citing a source
- Failing to use quotation marks for a direct quote
- Improperly paraphrasing—both the words and the structure of your writing must differ from your source

Students will be given a complete policy the first day of class to review and sign.

For questions about plagiarism or assistance at any part of the writing process, please visit the Academic Achievement Center or Library.

Academic Support

Private Instruction

Elmira Business Institute promotes student and faculty private instruction. This student service is provided at no charge for students enrolled in a program. Private Instruction is accomplished in the following way:

- Students should contact faculty members for scheduling private instruction.
- Mandatory private instruction scheduled by an Administrator when necessary.

Faculty Office Hours

The Faculty Office Hours are posted outside the classroom door. This the first stop for help for assignments, study skills, or writing for any course.

Academic Advising/Mentoring

Academic Advising/Mentoring is provided to each student throughout the semester. Staff or Faculty Mentors can facilitate student access to learning resources and answer basic questions regarding EBI academic programs and policies.

The Library

The Library supports the academic programs of the College and offers technology to assist student research in databases and on the Internet. A Librarian is available to assist in research and navigating our resources. Use the Library catalog (<http://ebi.scoolaid.net/bin/home>) to search for a book in the library, access databases and e-books, and find reference tools. Information is also available about community resources, including scholarships, part-time employment, child care, and transportation. Elmira Business Institute maintains a library of

hundreds of volumes of reference materials and manuals for the students' use. This facility is used both for independent reading and for study. The Institution also provides its students with access to an e-library containing over 80,000 volumes and reference materials. The e-library is available to the students 24-7 by remote access. Available for students' use is a wide range of resource materials that include encyclopedias, unabridged dictionaries, almanacs, atlases, and many volumes directly related to subjects studied at Elmira Business Institute. Books for general reading are also included. The library is available to students during normal school hours.

STANDARDS OF SATISFACTORY ACADEMIC PROGRESS

The Satisfactory Academic Progress Policy ensures that all Elmira Business Institute students enrolled in a diploma and degree programs are maintaining satisfactory progress towards a successful completion of their academic programs. The criteria and standards contained in the policy are set to recognize academic achievements or to detect problems for which actions of early intervention and/or remediation can be taken. These standards apply to all students whether they are eligible for Title IV funding or not. The Satisfactory Academic Policy complies with the requirements of the federal and state regulatory guidelines and the accrediting commission.

Satisfactory Progress Standards are designed to assess academic progress for classes taken at Elmira Business Institute only and requires a both quantitative measurements and qualitative measurements. Students must maintain satisfactory progress toward the completion of their program.

The following criteria are used to determine whether or not a student is making Satisfactory Academic Progress. These standards monitor whether a student meets the minimum quantitative and qualitative components. A student must be able to:

- Maintain a minimum cumulative grade point average (CGPA)
- Achieve the minimum incremental completion rate (ICR) and
- Complete the program within a maximum allowable time frame (MTF)

Failure to complete courses successfully for any reason will negatively affect Satisfactory Academic Progress. Failing courses or withdrawing from courses could result in extending the length of educational program, the loss of financial aid and/or dismissal. It is important to understand how these situations will impact SAP at your next evaluation points. In order for a student to graduate, the minimum requirements are a CGPA of 2.0 and completion of all required coursework without attempting more than 150% of the credits/hours in the program.

The college determines that a student is maintaining satisfactory academic progress if the student meets or exceeds the quantitative and qualitative standards outlined below, based on the cumulative number of semester credit hours attempted.

A minimum of a "D-" is required to pass the course. Documentation will be housed in the student's academic file. Although, this is the minimum passing grade. Students will need to meet the **Satisfactory Academic Progress** requirements.

Course Schedule

Lesson #	Topic(s)
1	Introduction <ul style="list-style-type: none"> • Discuss how businesses use statistics • Understand the basic vocabulary of statistics • Explain the use of Microsoft Excel with this book • Cover the use of Google Drive for this course
2	Organizing and Visualizing Data <ul style="list-style-type: none"> • Describe the sources of data used in business • Understand the types of data used in business • Construct tables & charts for numerical data • Construct tables & charts for categorical data • Know the principles of properly presenting graphs
3	Numerical Descriptive Measures <ul style="list-style-type: none"> • Describe the properties of central tendency, variation, and shape • Construct & interpret a boxplot • Compute descriptive summary measures for a population • Compute the covariance & the coefficient of correlation
4	QUIZ on Organizing and Visualizing Data Basic Probability <ul style="list-style-type: none"> • Know basic probability concepts • Know conditional probability • Know Bayes' theorem to revise probabilities
5	Discrete Probability Distributions <ul style="list-style-type: none"> • Describe the properties of a probability distribution • Compute the expected value & variance of a probability distribution • Calculate the covariance & understand its use in finance. • Compute probabilities from binomial, Poisson, & hyper geometric distributions. • Know how the binomial, Poisson, & hyper geometric distributions can be used to solve business problems
6	QUIZ on Probability The Normal Distribution and Other Continuous Distributions <ul style="list-style-type: none"> • Compute probabilities from the normal distribution • Describe how to use the normal distribution to solve business problems. • Use the normal probability plot to determine whether a set of data is approximately normally distributed. • Compute probabilities from the uniform distribution • Compute probabilities from the exponential distribution
7	Sampling and Sampling Distributions <ul style="list-style-type: none"> • Describe different sampling methods • Understand the concept of the sampling distribution • Compute probabilities related to the sample mean & the sample proportion • The importance of the Central Limit Theorem
8	Midterm Examination: Data Definitions, Probability, Distributions

9	Confidence Interval Estimation <ul style="list-style-type: none"> Construct & interpret confidence interval estimates for the mean & the proportion Determine the sample size necessary to develop a confidence interval estimate for the mean or proportion Explain how to use confidence interval estimates in auditing
10	Fundamentals of Hypothesis Testing: One-Sample Tests <ul style="list-style-type: none"> Understand the basic principles of hypothesis testing Describe how to use hypothesis testing to test a mean or proportion Evaluate the assumptions of each hypothesis-testing procedure, how to evaluate them, and the consequences if they are seriously violated How to avoid the pitfalls involved in hypothesis testing Ethical issues involved in hypothesis testing
11	Two-Sample Tests <ul style="list-style-type: none"> Describe the means of two independent populations Describe the means of two related population Understand the proportions of two independent populations Understand the variances of two independent populations
12	QUIZ on One- and Two-Sample Tests, Analysis of Variance, Chi-Square and Nonparametric Tests <ul style="list-style-type: none"> Describe how to use the one-way analysis of variance to test for differences among the means of several groups Understand how to use the two-way analysis of variance and interpret the interaction effect Understand how and when to use the chi-square test for contingency tables Understand how to use the Marascuilo procedure for determining pairwise differences when evaluating more than two proportions. Understand how and when to use the McNemar test Understand how & when to use nonparametric tests
13	Simple Linear Regression <ul style="list-style-type: none"> Describe how to use regression analysis to predict the value of a dependent variable based on an independent variable. Understand the meaning of the regression coefficients b_0 and b_1. Evaluate the assumptions of regression analysis & know what to do if the assumptions are violated. Describe how to make inferences about the slope & correlation coefficient. Estimate mean values & predict individual values.
14	Introduction to Multiple Regression <ul style="list-style-type: none"> Develop a multiple regression model Interpret the regression coefficients Determine which independent variable to include in the regression model Determine which independent variable are most important in predicting a dependent variable Determine how to use categorical independent variables in a regression model
15	Final Examination preparation

16	Final Examination
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Please note: Changes to the lessons may be made at the discretion of the instructor throughout the semester.

Revised February 2016 mzt, Revised July 2017 klp, Revised August 2018 klp, Revised August 2019 em, Revised December 2019 drg

General Information about Composing a Case Analysis

In general, a case study analysis should be organized to deal with the following items:

1. Concise, chronological restatement of the history, background, and important facts of the situation.
2. Identification of major problem(s) and issues – clearly state what the problem(s) and issues are as you interpret the case.
3. Analysis of the problem(s) – list the factors contributing to the problem(s) you have identified; that is, identify why the problem exists.
4. Possible outcomes/solution(s) – State your recommendations for dealing with the problem(s) and issues you have identified.

Adapted from <http://pages.towson.edu/aclardy/ORG%20BEH%20SYL.htm>

Alternate Rubric for Evaluating Case Analysis Case Analysis Evaluation 100 Points

	Above average	Average	Below average	Points
Proper Case Analysis Format (10 points)	Follows format successfully	Follows format most of the time	Does not follow format consistently	
Content – Analysis (35 points)	Gives own analysis beyond any study questions offered	Gives some analysis	Little to no analysis- only repeats case material	
Content – Support (30 points)	Offers concrete examples and relevant support	Needs more concrete examples and/or relevant support	Selects irrelevant or ineffective examples	
Organization- Effective, Persuasive (15 points)	Connects sentences and paragraphs logically to convey ideas clearly	Connects sentences/paragraphs logically on an inconsistent basis, but main ideas are discernible	Does not connect sentences/paragraphs logically – ideas are unclear	
Writing- Effective Style/Grammar/Mechanics (10 points)	Avoids irrelevant wordiness, jargon, clichés, and uses proper grammar, spelling, and punctuation. Uses professional tone.	Uses irrelevant wordiness, jargon, clichés. Need for more professional tone. Has several grammar, spelling, or punctuation errors.	Uses extensive wordy, redundant, and vague language. Overuses jargon and clichés. Makes numerous grammar, spelling, or punctuation errors.	

Adapted from www.cpsc.edu/learningcollege/learning-outcomes/rubrics/rubric_for_case_studies.doc

The use of <http://www.plagiarismchecker.com/> was used on this assignment: Yes____No____

Career Readiness Assessment “CRA” ☐ Midterm ☐ Final

Student Name: _____ Course ID: _____ Instructor: _____

	Total Points	Excellent (16-20 points)	Good (11-15 points)	Fair (6-10 points)	Poor (0-5 points)
Attendance		The student arrives on time for the course, and stays for the duration of the class. Attends at least 90% of the class.	The student arrives on time for the course and stays for the duration of the course. Attends at least 85% of the class.	The student arrives late or does not stay for the duration of the class. Attends at least 75% of the class.	The student generally arrives late for the course, or stays for fewer than 65% of the class.
Class Engagement (Initiative)		Proactively contributes to class by regularly offering ideas and asking questions.	Proactively contributes to class periodically offering ideas and asking questions	Rarely contributes to class by offering ideas and asking questions.	Never contributes to class by offering ideas and asking questions.
Listening Skills		Actively listens when others speak during in-class activities. Incorporates the ideas of others in questions/comments.	Listens when others speak both in groups and lecture.	Does not listen in groups or lecture and is not engaged during class	Does not listen in groups and lecture. Interrupts or talks in class.
Behavior		Never displays disruptive behavior, respectful of others in actions and language, and cooperates in a classroom environment.	Rarely disruptive, partial participation in group activities	Occasionally disruptive, rarely participates in group activities.	Very disruptive with actions and language or never participates in group activities.
Professionalism		Always prepared for class, hands in work at beginning of class, and follows appropriate dress code. The student does not use electronic devices inappropriately.	Usually prepared for class, often hands in work at beginning of the class, and mostly follows appropriate dress code. The student rarely uses electronic devices inappropriately.	Rarely prepared for class, rarely hands in work at the beginning of the class, and rarely follows dress code. The student often uses electronic devices inappropriately.	Almost never prepared for class, excessively hands in work late, and does not follow dress code. The student excessively uses electronic devices inappropriately in the classroom.

Total Points: ____/100

Professionalism Grade
15%